

RCRA FACILITY ASSESSMENT EVALUATION
PRELIMINARY REVIEW AND VISUAL SITE INSPECTION
(NO SAMPLING VISIT)

Region VI, Technical Compliance Section

FACILITY'S NAME(S): Hoechst-Celanese Chemical Co., Inc. - Clear Lake Plant

EPA ID NUMBER: TXD078432457

ADDRESS: P.O. Box 58009, Houston, Texas 77258

LOCATION: 9502 Bayport Blvd., Pasadena, Texas 77507

SITE DESCRIPTION: 1000 Acres in Bayport Industrial Park near Clear Lake City

DATE OF INSPECTION: 3/12-13/87 VSI CONDUCTED BY: TWC

PREPARED BY: Keri Bourland-Chesnut, DATE PREPARED: 11-25-87

REVIEWED BY: Herbert Gorrod DATE REVIEWED: 12/18/87

ANTICIPATED DRAFT PERMIT DATE: 12-25-87

FACILITY STATUS: Active

ANY ON-GOING STATE/FED 264, 265, or 270 CORRECTIVE ACTION OR CERCLA ACTION:

DOES FACILITY HAVE A CERCLA FILE? YES X NO

DOES FACILITY HAVE UIC WELL? YES X NO TYPE: 2-Class I
Injection Wells

TYPE OF DRINKING WATER SUPPLY WITHIN A 3-MILE RADIUS: Deep wells into lower Chicot aquifer, below 460-feet, supply all cities, industries, and most individual residences. A few residences get water from Upper Chicot aquifer at 70-100 feet deep (none within 2 miles)

TARGET POPULATION WITHIN A 3-MILE RADIUS: 2 miles to nearest residential area. Adjacent land in Bayport Industrial Park and used for commercial/industrial purposes.

RECOMMENDATIONS: S.V. X R.F.I. I.M. No Further Action under RFA

(Indicate only one unless I.M. is marked)

X 3004(u) 3007

Possible Enforcement Action: 3008(a) 3008(h)

I. EVALUATION

A. NUMBER OF SWMU(s) INVESTIGATED DURING THE PR/VSI: 35

<u>LIST OF SWMU</u>	<u>REGULATED BY RCRA*</u> (SUBTITLE C)	<u>STATUS**</u>
1) Well Surge Pond	Y	A
2) GCWDA Surge Pond	Y	A
3) Ethylene Oxide Emergency Dump Pond	Y	A
4) Cooling Tower Blowdown Pond	N	A
5) Well Effluent Filter Surge Tank	Y	A
6) Well Surge Tank	Y	A
7) Clean Oil Tank	Y	C
8) Dirty Oil Tank	Y	C
9) Acetic Residue Tank	Y	A
10) Acrylate Organics Tank	Y	A
11) Acrylate Wastewater Tank	Y	I
12) Acrylate Tank Car Washwater Tank	Y	A
13) Waste Acetic Acid Tank	Y	A
14) Waste Acetic Acid Tank	Y	A
15) Injection Well Effluent Filter Tank	Y	A
16) Disposal Well #1	Y	A
17) Disposal Well #2	Y	A
18) Acrylate Liquids Incinerator #1	Y	A
19) Acrylate Liquids Incinerator #2		
20) Utility Incinerator	Y	C
21) Utility Incinerator	N	C
22) Acrylate Solids Incinerator	Y	A
23) Dirt Pit	N	C
24) Land Treatment Unit	N	A
25) Sludge Lagoon	N	A
26) Sludge Lagoon	N	A
27) Drum Storage Area	Y	A
28) Acrylate Drum Storage	Y	A
29) Plant Rolloff Storage Area	Y	A
30) Well Effluent Mix Tank	Y	C
31) Co Unit Spent Methanol Tank	Y	A
32) Spent Methanol Tank	Y	I
33) Temporary Acrylate Wastewater Tank	Y	A
34) Spent Oil Tank	Y	A
35) Sumps 34)	Y	A

* Y-Yes, N-NO

** Active, Inactive, Closed (A, I, & C)

3

B. NUMBER SHRI(s) TO BE INCLUDED IN THE RFI: 10
(Except RCRA units subject to Subpart F refer to Section D)

1. NUMBER OF SHRI(s) AT WHICH RELEASES HAVE BEEN IDENTIFIED: 7

<u>LIST OF SHRI</u>	<u>RELEASE TO</u>	<u>NOTED DOCUMENTATION OF RELEASE</u>
1) No. 11 Acrylate Wastewater Tank	Soil/GW	In July 1986, a leak in the tank bottom was noted and was replaced by another tank. The waste (Acrolein, Cresols, Formic Acid, Formaldehyde) spill went primarily to a collection flume & sump, but some was released to the soil. The extent of the soil contamination should be determined. A future leak is considered remote. It is a stainless steel tank (more resistant to corrosion than the previous carbon steel tank), closed top, located above ground on a concrete pad with a local sump.
2) No. 33 Temporary Acrylate Wastewater Tank	Soil/GW	"

<u>LIST OF SWMU</u>	<u>RELEASE TO</u>	<u>NOTED DOCUMENTATION OF RELEASE</u>
3) No. 13 Waste Acetic Tank	Soil/GW	During the VSI on 3-87 staining was noted on the tanks, the concrete pad, and on the ground adjacent to the tanks. Wastes include acrolein, formic acid, and formaldehyde. Although these tanks are above ground, closed top, located on a concrete foundation with ringwall, the soil staining indicates contamination which should be investigated.
4) No. 14 Waste Acetic Tank	Soil/GW	" "
5) No. 29 Plant Rolloff Storage Area	Soil/GW	Evidence of contaminated soil gathered during the VSI (March 1987) indicates the need for further evaluation. Wastes are listed as contaminated soil and sand filter material, spent organic polymer resins, spent carbon, crushed drums, and cooling tower residue and packing. These are stored in rolloff containers before removal off-site for disposal. The facility was built over the Dirt Pit (23) and adjacent to the Disposal Well Surge Pond (01). It has a concrete foundation with 6-inch curbing, and drains into the pond.
6) No. 34 Spent Oil Tank	Soil/GW	Staining of the concrete slab underlying this tank gives evidence of a spill. Since the secondary containment is incomplete, a release to the soil is possible. The tank is used to store waste oil prior to off-site incineration.

<u>LIST OF SUMM</u>	<u>RELEASE TO</u>	<u>NOTED DOCUMENTATION OF RELEASE</u>
7) No. 35 Sump Complex (Acety) Tank Farm Sump No. 9)	Soil/GW	In early 1986, while cleaning Sump No. 9, small cracks were found near bottom of the sump; water was observed seeping into the sump. The water had high organic content, identified as Methanol, Acetaldehyde, Acetic Acid, and Ethylene Glycol; however a groundwater monitoring well, about six-feet away, showed no indication of the organics. Presumably, the cracks have been repaired, and an acid resistant liner placed in the sump; however, the damage has been done to the soil and perhaps to the groundwater.

2. NUMBER OF SUMM(s) AT WHICH A RELEASE IS HIGHLY POSSIBLE: 3

<u>LIST OF SUMM</u>	<u>MEDIA</u>	<u>RATIONALE</u>
1) No. 04 Cooling Tower Blowdown Pond	Soil/GW	This unlined surface impoundment receives cooling tower blowdown presently non- hazardous but in the past may have contained chromium compounds, ethylene oxide, vinyl chloride, and some others. The pond is adjacent to other HRA regulated surface impoundments with an active groundwater monitoring system. Potentiometric maps indicate groundwater mounding near these ponds and wells 3 & 4 have elevated sulfate concentrations. Monitor Well No. 4 is directly south of this facility. Since the impoundment has been active for 19 years, is unlined, and has evidence of mounding, it is likely that a release of hazardous constituents to the soil and groundwater is

6

LIST OF SUMU

MEDIA

RATIONALE

2) No. 23 Dirt Pit

Soil/GW

For several years before 1979, this pit received construction waste and soil contaminated with copper and various organics, such as acetaldehyde, acetic acid, etc. From 1979 to 1984 the pit was inactive before being filled and capped. There is no evidence that releases have occurred from this unit, but it is very likely that soil and groundwater contamination has taken place. The pit may have been unlined; the nature of the waste dumped in the pit is unknown; the area may have been contaminated from spills associated with the roll-off storage bins (No. 29).

3) No. 35 Sump Complex

Soil/GW

Sump No. 9 has been covered previously. The other 33 sumps could have similar trouble and release hazardous waste into the soil and possibly groundwater. The VSI was inconclusive concerning the physical integrity of the sumps due to wastes or residues in the sumps or covers over the sumps. Each needs to be inspected.

3. NUMBER OF SMMU(s) WHERE A DETERMINATION OF RELEASE CAN NOT BE MADE
DUE TO LACK OF INFORMATION: 0

C. NUMBER OF SMMU(s) FOR WHICH AN RFI IS NOT RECOMMENDED: 22

<u>LIST OF SMMU</u>	<u>RATIONALE</u>
1) No. 5 Well Effluent Filter Surge Tank (V-51)	Spent acids, caustics, and solvents plus boiler feed wastewater with organics and metals are stored temporarily in these above ground, closed tanks. They sit on a concrete slab with 6-inch curbing. Past releases have not been noted, nor were present ones evidenced.
2) No. 6 Well Surge Tank (V-40)	SAME AS ABOVE
3) No. 7 "Clean Oil" Tank (V-298)	This tank was taken out of service in 1982, and closed in 1986 according to an approved closure plan. It had been used to store heavy organic streams, waste oil, and wastewater with vinyl acetate; now it will be used for non- hazardous waste. Since the tank sits on a concrete slab, has a containment system, and is a closed vessel, no past releases have occurred.
4) No. 8 "Dirty Oil" Tank (V-299)	Waste oil and water residue were stored here prior to incineration from 1967 to 1986; however, it was closed under an approved plan in 1986 and is intended for non- hazardous use. The tank is secure, being above ground, closed, located on a concrete slab, and having adequate curbing. No releases have been reported nor seen on the VSI.
5) No. 9 Arctic Residue Tank (V-600)	This is a closed, above ground tank that is sitting on a concrete pad and drains into the facility sump system. Organic residue streams and waste acids are stored prior to incineration. There is no evidence that releases have occurred from this unit.

LIST OF SWMU

RATIONALE

- | | |
|---|---|
| 6) No. 10 Acrylate Organics Tank
(V-599) | Waste organic streams from the acrylic acid, ethyl acrylate, and the butyl acrylate units are stored prior to incineration. The tank is secured with high level alarm and waste feed cut-off; also it is closed, above ground, has a concrete pad, and drains into a sump. No releases have been reported. |
| 7) No. 12 Acrylate Tank Car
Washwater Tank (V-550) | No hazardous constituents are stored in this tank, only washwater from the washing of empty acrylate tank cars. No releases have occurred from this closed, above ground tank. There is a 6-inch curb around the concrete slab. |
| 8) No. 15 Injection Well Effluent
Filter Tank (MF95) | Numerous Appendix VIII constituents are contained in this injection well effluent filtered into a carbon steel tank. The closed vessel sits on a concrete base with secondary containment. Any spills would drain into a sump and pumped into the well surge pond (01). No releases of hazardous material have been reported in the past. |
| 9) No. 16 Disposal Well No. 1
(WDM-33) | The wellhead for WDM #33 is in good condition and sits on a concrete pad which drains to a sump. There is continuous monitoring of the annular space. No visible evidence of past or present releases exist. The well is covered under a UIC permit. |
| 10) No. 17 Disposal Well No. 2
(WDM-45) | Since the failure of a mechanical integrity test in 1981 due to a packer problem, the well has been a stand-by unit for disposal well no. 33. It is unlikely that a release has occurred in the past. The site is clean, the wellhead is in good condition, and satisfactory annular space monitoring. Permitted under UIC. |
| 11) No. 18 Acrylate Liquids
Incinerator (60 MM 10B) | Organic liquids and vapors are burned under control of TACR. No physical releases or spills have been reported. Each sits on a concrete foundation. |

LIST OF SUMI

RATIONALE

- 12) No. 19 Acrylate Liquids
Incinerator (60MN-109)

Organic liquids and vapors are burned under control of TACB. No physical releases or spills have been reported. Each sits on a concrete foundation.

- 13) No. 20 Utility Incinerator
(18MN-79)

In accordance with an approved closure plan, the incinerator was dismantled in 1986-87. There were no releases reported during the closure process.

- 14) No. 21 Utility Incinerator
(18MN-80)

Burned organic streams, oils, and wastewater from 1969-78. Although not dismantled, it is closed. There is a concrete foundation with secondary containment. No evidence of past releases.

- 15) No. 22 Acrylate Solids
Incinerator (60MN-118)

Polymers and other solids contaminated with organics, lab waste, and plant solids are consumed. Solid waste is fed manually into the incinerator which sits on a concrete slab, draining into a sump. The potential for release is small; however, the TACB continues to monitor the releases to the air. There is no evidence of past occurrences from this unit.

- 16) No. 24. Land Treatment Unit

Used to dispose Class II clarifier blowdown sludge. It has never handled waste containing hazardous constituents and has never reported a release; therefore, no action is recommended.

- 17) No. 25 & 26 Sludge Lagoon

These 7-acre surface impoundments are used to settle sludge from river water clarifier. Dewatered sludge is put in landfarm (No. 24). No hazardous waste nor waste with Appendix VIII constituents are managed in these lagoons. No past releases have been recorded.

LIST OF SWMU

RATIONALE

18) No. 27 Plant Drum Storage

Area consists of a concrete slab with 6 inch curbs that slopes toward a center drain. Any spills would go immediately to the Well Surge Pond (01). Closed, steel drums contain material contaminated with organics, oils, and trace metals. It is unlikely that a release of hazardous material has occurred.

19) No. 30 Well Effluent
Mix Tank (V-571)

The tank, formerly used for mixing process waste streams & plant wastewater, was closed in 1985, using an approved closure plan. It has had no reported releases, nor had any evidence of one during the VSI. It is an above ground, closed tank located on a curbed, concrete slab.

20) No. 31 Co Unit Spent
Methanol Tank (V-655)

Spent methanol containing traces of cyanide is temporarily stored before use as fuel in the Co-unit. It is an above ground tank located on a concrete slab which drains to a sump. There is no evidence that releases have occurred from this tank.

21) No. 32 Spent Methanol
Tank (V-337)

There is no evidence that releases have occurred from the unit, a closed tank sitting on a concrete slab, draining to a sump. Spent methanol, burned as auxiliary fuel, is stored.

D. SUPPLEMENTAL INFORMATION ON RCRA REGULATED UNITS: 4
(Describe any problems identified or suspected from regulated units
including identified releases to groundwater)

- 1) No. 1 Well Surge Pond
This pond holds spent acids, caustics, solvents, ethylene oxide and some oxides & metals in boiler feed water chemicals. It covers 3 acres, is unlined and well diked. The evidence of groundwater mounding and elevated sulfate concentrations indicates the surface impoundments, including this one, have been leaking. A groundwater monitoring system is in place. The unit is scheduled for closing in November 1988 to be replaced with above ground tankage. The soil & groundwater contamination will be addressed in the closure permits.
- 2) No. 2 Gulf Coast Waste Disposal Authority Surge Pond
The wastewater effluent in this 2.5 acre pond contains trace metals and organics. The pond is unlined, a natural clay bottom, and is well bermed to prevent overflowage. There are no indications of surface or air releases; however the groundwater mounding shown on potentiometric maps and the high sulfate concentrations detected in two of the groundwater monitoring wells indicate a release to both soil and groundwater. Any deficiencies will be addressed through the closure of the unit.
- 3) No. 2B Acrylate Drum Storage
Corrosives, organic polymers, and miscellaneous waste solids are stored in closed, steel drums that sit on a center sloped concrete pad. Spills would go to the center sump; however, there is no curbing; so spills could happen from drums stored on the outer edge. There was no evidence of this. The deficiency will be addressed in Celanese Part B permit.

12

1) No. 3 Ethylene Oxide
Emergency Dump Pond

Soil/GW

An unlined surface impoundment serves as an emergency pond where ethylene oxide can be dumped into the pond in critical situations to prevent fire and/or explosion. Although the unit was granted a variance from retrofitting and exempted from hazardous waste permitting, the exemption addressed only ethylene oxide constituent. However, wastewater with chromium compounds, ethylene oxide dregs from processing equipment, and cooling tower blowdown have been disposed in this unit.

II. FINDINGS

A. RECOMMENDATIONS: (EPA, STATE and/or CONTRACTOR)

State:

- 1) The State recommends a RCRA Facility Investigation to be performed on the Cooling Tower Blowdown Pond (04), the two Acrylate Wastewater Tanks (#11, 33), the Waste Acetic Tanks (#13, 14), the Dirt Pit (#23), the Plant Rolloff Storage Area (#29), the Spent Oil Tank (#34), and the Sumps (Especially #9).
- 2) The surface impoundments (Nos. 01 thru 04) should be monitored carefully due to the evidence of groundwater contamination in the upper Chicot aquifer. Mounding and an elevated sulfate concentration prove the contamination. Remedial action in these ponds will be addressed in the appropriate permits.
- 3) The ?? sumps, excluding No. 9, should be drained and inspected for their structural integrity.

EPA:

- 1) The EPA concurs with the State's recommendation that a RCRA Facility Investigation be done on the units listed above.

B. ADDITIONAL COMMENTS:

CONCUR: LYDIA M. BOADA CLISTA

DATE: 11/23/87